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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/604,391	Applicant(s) CHIANG, SHU-YA	
	Examiner JEREMY R. SEVERSON	Art Unit 3653	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 November 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5, 6, 8-21 and 29-32 is/are pending in the application.
- 4a) Of the above claim(s) 29-32 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 5, 6 and 8-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Newly submitted claims 29-32 are directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: the original claims and the newly added claims are related as product and process of use respectively. The inventions can be shown to be distinct if either or both of the following can be shown: (1) the process for using the product as claimed can be practiced with another materially different product or (2) the product as claimed can be used in a materially different process of using that product. See MPEP § 806.05(h). In the instant case the product as claimed can be used in a materially different process of using that product because the claimed product does not require that the document partially bends around the idle roller while at the same time partially separates away from the belt.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 29-32 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

The examiner has required restriction between product and process claims. Because applicant has constructively elected claims directed to the product, if the product claims are subsequently found allowable, withdrawn process claims that

Art Unit: 3653

depend from or otherwise require all the limitations of the allowable product claim will be considered for rejoinder. All claims directed to a nonelected process invention must require all the limitations of an allowable product claim for that process invention to be rejoined.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103 and 112. Until all claims to the elected product are found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowable product claim will not be rejoined. See MPEP § 821.04(b). Additionally, in order to retain the right to rejoinder in accordance with the above policy, applicant is advised that the process claims should be amended during prosecution to require the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

Claim Objections

Claim 18 is objected to because of the following informalities: “driver rollers” should be “drive rollers”. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (Jap. Pat. No. 58152737).

Re claim 1, Takahashi discloses a document feeder mechanism: comprising: one or more drive rollers (3, 4); one or more belts (11, 12) capable of tightening around the drive rollers, wherein at least one of the drive rollers is capable of driving the one or more belts; an idle roller 13; and an elastic member (18, 19) attached at one end to the idle roller, and the elastic member configured to exert a force on the one or more belts via the idle roller, wherein the drive rollers, idle roller and one or more belts are further configured to: move a document from a feed-in path to a feed-out path; wherein a direction of the feed-in path and a direction of the feed-out path are both substantially parallel to each other and also parallel to a direction of the force exerted by the elastic member on the idle roller; and receive the document from the feed-in path, transport the document substantially 180 degrees around the same idle roller, and output the document from the same idle roller to the feed-out path. Takahashi does not explicitly disclose that the elastic member is attached at the other end to a body structure retaining the sheet feed mechanism. However, this arrangement is suggested by Fig. 2

of Takahashi and it would have been obvious to one of ordinary skill in the art at the time of the invention to attach the elastic member to a body structure retaining the sheet feed mechanism, in order to achieve a simple, compact apparatus.

Re claim 2, Takahashi discloses the document feeder mechanism of claim 1, wherein the idle roller 13 is configured to press against the one or more belts so that the document bends around the idle roller in a direction away from the one or more belts.

Re claim 3, Takahashi discloses the document feeder mechanism of claim 1, wherein only one side of the idle roller 13 presses against the one or more belts.

Re claim 9, Takahashi discloses the document feeder mechanism of claim 1. Takahashi lacks the explicit disclosure of an apparatus wherein the one or more drive rollers include one or more axles fixed to the body. However, it was well-known in the art at the time of the invention to use drive rollers with one or more axles fixed to a body. It would have been obvious to one of ordinary skill in the art at the time of the invention to fix the drive rollers of Takahashi to a body, in order to keep the rollers in place while allowing them to rotate.

Re claim 10, Takahashi discloses the document feeder mechanism of claim 1, wherein the multiple drive rollers (3, 8, 7) comprise only three drive rollers arranged in a triangular formation.

Re claim 12, Takahashi discloses the document feeder mechanism of claim 1, wherein the document comprises a sheet of paper 21.

Re claim 13, Takahashi discloses the document feeder mechanism of claim 1, wherein a contact between the one or more belts and the idle roller comprises a face

type contact: a location of the face type contact between the idle roller and the one or more belts being substantially perpendicular to the direction of the feed-in path and perpendicular to the direction of the feed-out path. See Takahashi, fig. 2.

Re claim 14, Takahashi discloses the document feeder mechanism of claim 13. Takahashi does not explicitly disclose that a surface contact friction between the one or more belts and the document is greater than the friction between the idle roller and the document. However, forming the rollers and the belt out of rubber was well-known in the art at the time of the invention. Using documents that are glossy on only one side was well-known in the art at the time of the invention. Using rubber belts and rollers with similar coefficients of friction would have been obvious to one of ordinary skill in the art at the time of the invention for their durability and friction characteristics. Feeding a document that is glossy on the side contacting the roller would have been obvious at the time of the invention in order to feed photo paper. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a system wherein the surface contact friction between the one or more belts and the document is greater than the friction between the idle roller and the document, in order to provide durability and use the apparatus with photo paper.

Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Enders (US 6,481,710).

Re claim 5, Takahashi discloses everything except that a third one of the drive rollers is co-linearly aligned with the direction of the force exerted on the idle roller. Enders teaches an arrangement wherein a drive roller 10 is co-linearly aligned with the

direction of the force exerted on the idle roller, in order to provide tension on the belt. See Enders, fig. 2, and par. 24. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an arrangement wherein a drive roller 10 is co-linearly aligned with the direction of the force exerted on the idle roller, in the apparatus of Takahashi, as taught by Enders, in order to provide tension on the belt.

Re claim 6, the apparatus of Takahashi as modified by Enders comprises the document feeder mechanism of claim 5, wherein the feed-in path is substantially horizontally aligned between the first one of the drive rollers and the idle roller and the feed-out path is substantially horizontally aligned between the second one of the drive rollers and the idle roller. See Takahashi, fig. 2.

Re claim 8, the apparatus of Takahashi as modified by Enders comprises the transmission document feeder mechanism of claim 6, wherein the third drive roller (Enders, 10) is the same distance from both the first 3 and second 7 drive rollers, and the first and second drive rollers are a greater distance apart from each other than their distance from the third drive roller.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Munenaka (US 6,330,404).

Re claim 11, Takahashi discloses everything except that the spring is configured to push out from the body against the idle roller. Munenaka teaches the use of a spring 13a that is configured to push out from the body against the idle roller 13, in order to provide a predetermined amount of force on the roller. Therefore, it would have been

obvious to a person of ordinary skill in the art at the time of the invention to use a spring that is configured to push out from the body against the idle roller in the apparatus of Takahashi, as taught by Munenaka, in order to provide a predetermined amount of force on the roller.

Claims 15, 17-19 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's admitted prior art in view of Takahashi.

Re claim 15, Applicant discloses that the prior art discloses an apparatus comprising: a feed-in tray; a feed-out tray located directly underneath the feed-in tray.; a feed-in roller configured to feed the document from the feed-in tray in the direction of the feed-in path, wherein the feed-in roller is disposed adjacent a first end of one side of the transmission mechanism; and a feed-out roller configured to feed out the document from the idle roller and the one or more belts in the direction of the feed-out path toward the feed-out tray, wherein the feed-out roller is disposed adjacent a second end of the one side of the transmission mechanism. See fig. 1 of application. Takahashi discloses the document feeder of claim 1, in order to convey paper with improved conveying properties. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to add the document feeder of Takahashi to the apparatus disclosed by applicant as being in the prior art, in order to convey paper with improved conveying properties.

Re claim 17, Applicant's admitted prior art discloses a sheet feeder system for a scanner having a body, comprising: a feed-in roller located inside the body; a feed-out

Art Unit: 3653

roller located inside the body; and a transmission mechanism located inside the body having an upstream end located adjacent to the feed-in roller and a downstream end located adjacent to the feed-out roller. See fig. 1 of application. Takahashi discloses the transmission mechanism comprising: drive rollers (3, 4); one or more belts (11, 12) capable of tightening around the drive rollers, wherein at least one of drive rollers drive the one or more belts; an idle roller 13; and an elastic member (18, 19) attached at one end to the idle roller, the elastic member configured to exert a force via the idle roller a force on the one or more belts and wherein substantially only one side of the idle roller contacts the belt and exerts the force from the elastic member against the one or more belts, the force exerted from the idle roller on the one or more belts being at least approximately in a document feed-in path direction and at least approximately opposite to a document feed-out path direction, in order to convey paper with improved conveying properties. Therefore, it would have been obvious to a person of ordinary skill in the art at the time of the invention to add the document feeder of Takahashi to the apparatus disclosed by applicant as being in the prior art, in order to convey paper with improved conveying properties. Takahashi does not explicitly disclose that the elastic member is attached at the other end to a body structure retaining the sheet feed mechanism. However, this arrangement is suggested by Fig. 2 of Takahashi and it would have been obvious to one of ordinary skill in the art at the time of the invention to attach the elastic member to a body structure retaining the sheet feed mechanism, in order to achieve a simple, compact apparatus.

Re claim 18, Takahashi as modified by applicant's admitted prior art comprises the sheet feeder system of claim 17, wherein the number of drive rollers (3, 8, 7) is three and the driver rollers are arranged in a triangular formation.

Re claim 19, Takahashi as modified by applicant's admitted prior art comprises the sheet feeder system of claim 17, wherein movement of the one or more belts in combination with the force exerted by the idle roller on the one or more belts is configured to move paper approximately 180 degrees around the same idle roller 13.

Re claim 21, Takahashi as modified by applicant's admitted prior art comprises the transmission mechanism of claim 17 further comprising a scan module (132, from applicant's disclosure) located in between the transmission mechanism and the feed-out roller and configured to scan paper output from the transmission mechanism after being moved 180 degrees around the idle roller.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of DeBarber (US 5,740,728).

Re claim 16, Takahashi discloses the document feeder mechanism of claim 1. Takahashi does not explicitly disclose that the elastic member is configured to move the idle roller towards a substantially single tangential contact location on the one or more belts in a substantially tangent direction that is substantially perpendicular to the direction of force exerted by the elastic member against the idle roller. DeBarber teaches the use of a system wherein the elastic member 252 is configured to move the idle roller 234 towards a substantially single tangential contact location on the one or more belts in a substantially tangent direction that is substantially perpendicular to the

Art Unit: 3653

direction of force exerted by the elastic member against the idle roller, in order to achieve a suitable mounting arrangement. Col. 4, lines 12-16. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a system wherein the elastic member is configured to move the idle roller towards a substantially single tangential contact location on the one or more belts in a substantially tangent direction that is substantially perpendicular to the direction of force exerted by the elastic member against the idle roller, in the apparatus of Takahashi, as taught by DeBarber, in order to achieve a suitable mounting arrangement.

Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Applicant's admitted prior art and Enders.

Re claim 20, Takahashi as modified by applicant's admitted prior art comprises the sheet feeder system of claim 17, wherein: a first one of the drive rollers 7 is located above the idle roller; a second one of the drive rollers 3 is located below the idle roller; Takahashi does not explicitly disclose that a third one of the drive rollers is co-linearly aligned with the direction of force exerted by the elastic member via the idle roller against the one or more belts. Enders teaches an arrangement wherein a drive roller 10 is co-linearly aligned with the direction of the force exerted on the idle roller, in order to provide tension on the belt. See Enders, fig. 2, and par. 24. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use an arrangement wherein a drive roller 10 is co-linearly aligned with the direction of the force exerted on the idle roller, in the apparatus of Takahashi, as taught by Enders, in order to provide tension on the belt.

Response to Arguments

Applicant's arguments filed 12 November 2007 have been fully considered but they are not persuasive.

Applicant argues that the two idle roller system in Takahashi only moves a document a total of 135 degrees. The Examiner respectfully disagrees. The transmission system of Takahashi moves the document 180 degrees from a feed-in path to a feed-out path.

Applicant further argues that none of the art cited by the Examiner suggests asserting a force on a document while being transported on a belt so that the document bends around the idle roller and in a direction away from the belt. The Examiner respectfully disagrees. The document bends in a direction away from the belt as it passes through the transmission mechanism and to the feed-out path.

Applicant further argues that none of the art cited by the Examiner suggest three drive rollers arranged in a triangular configuration. The Examiner respectfully disagrees. Rollers 3, 8 and 7 are arranged in a triangular configuration.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEREMY R. SEVERSON whose telephone number is (571)272-2209. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey, can be reached on 571-272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeremy R Severson/
Examiner, Art Unit 3653

/Patrick H. Mackey/
Supervisory Patent Examiner, Art Unit 3653